

Application No. 10/027,906

REMARKS

Claims 1-25, 126-133, 136-137, 142-145 and 148-184 are pending. By this Amendment, claim 1 is canceled without prejudice, and claims 2, 4, 5, 9, 12, 22, 23 and 137 are amended. In particular, claim 5 is amended to incorporate all of the features of claim 1. Claims 2, 4, 9, 12 and 22 are amended to change the dependency to claim 5 in view of the cancellation of claim 1. Claim 23 is amended to correct an obvious error. Claim 137 is amended to correct an obvious error in claim dependency. New claims 148-184 are based on original claims 2-16. Also, the specification has been amended to update the reference to copending patent applications. No new matter is introduced by the amendments.

Claims 1-25, 126-133, 136-137 and 142-145 stand rejected. Applicants respectfully request reconsideration of the rejections based on the following comments.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1, 23, 126 and 142 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,215,585 to Yoshimura et al. (the Yoshimura patent). To advance prosecution of the case, Applicants have canceled claim 1 and amended claim 5 to incorporate the features of claim 1. Thus, the rejection of claim 1 is presently moot. Applicants maintain that the Yoshimura patent does not prima facie anticipate any of the other claims. Applicants respectfully request reconsideration of the rejections based on the following comments.

With respect to claim 23, the Yoshimura patent does not teach an optical pathway with a gradual turn, as specified in claim 23. While, the Yoshimura patent schematically shows light paths curving through sharp bends in the light path due to changing index of refraction, the Yoshimura patent does not show any structures involving a gradual turn. In contrast, Applicants show such a structure, for example, in Fig. 31 and the associated discussion. Since the

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Yoshimura patent does not teach a gradual turn, the Yoshimura patent does not prima facie anticipate Applicants' claimed invention.

With respect to claim 126, the Yoshimura patent does not teach a localized band of tap material having an index-of-refraction intermediate between the core layer and the average index-of-refraction of the cladding layer. Therefore, the Yoshimura patent does not prima facie anticipate claim 126.

With respect to claim 142, the Yoshimura patent does not teach a monolithic optical structure with a free space optical element embedded within the monolithic optical structure. Therefore, the Yoshimura patent does not prima facie anticipate Applicants' claimed invention.

Since the Yoshimura patent does not prima facie anticipate any of Applicants' pending claims, Applicants respectfully request withdrawal of the rejection of claims 1, 23, 126 and 142 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,215,585 to Yoshimura et al. (the Yoshimura patent).

Rejections Under 35 U.S.C. § 103(a) Over Yoshimura et al.

The Examiner rejected claims 2-22, 24, 25, 127-129, 136, 137 and 143-145 under 35 U.S.C. § 103(a) as being unpatentable over the Yoshimura patent. Applicants maintain that the Yoshimura patent does not render Applicants' invention prima facie obvious. Applicants respectfully request reconsideration of the rejection based on the following comments.

With respect to the claims originally depending from claim 1, the Yoshimura patent does not teach, suggest or motivate a plurality of optical devices integrated within a layer. Therefore, the Yoshimura patent does not render these claims prima facie obvious.

With respect to claims 24 and 25, the Yoshimura patent does not teach, suggest or motivate an optical pathway with a gradual turn. Therefore, the Yoshimura patent does not render claims 24 and 25 prima facie obvious.

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With respect to claims 127-129, the Yoshimura patent does not teach, suggest or motivate a localized band of tap material having an index-of-refraction intermediate between the core layer and the average index-of-refraction of the cladding layer. Therefore, the Yoshimura patent does not render claims 127-129 prima facie obvious.

With respect to claims 136 and 137, the Yoshimura patent does not teach, suggest or motivate a material having an index-of-refraction that varies with temperature. Therefore, the Yoshimura patent does not render claims 136 and 137 prima facie obvious.

With respect to claims 143-145, the Yoshimura patent does not teach, suggest or motivate a monolithic optical structure with a free space optical element embedded within the monolithic optical structure. Therefore, the Yoshimura patent does not render claims 143-145 prima facie obvious.

In view of the above discussion, the Yoshimura patent does not render any of Applicants' claims prima facie obvious. Applicants respectfully request the withdrawal of the rejection of claims 2-22, 24, 25, 127-129, 136, 137 and 143-145 under 35 U.S.C. § 103(a) as being unpatentable over the Yoshimura patent.

Rejection Over Yoshimura et al. and Yoshikawa et al.

The Examiner rejected claims 130-133 under 35 U.S.C. § 103(a) as being unpatentable over the Yoshimura patent in view of U.S. Patent 6,154,479 to Yoshikawa et al. (the Yoshikawa patent). In particular, the Examiner cited the Yoshikawa patent for disclosing the arrangement of a plurality of VCSELs in an IC configuration. Applicants maintain that the combined teachings of the Yoshimura patent and the Yoshikawa patent do not render Applicants' claimed invention prima facie obvious. Applicants respectfully request reconsideration of the rejection based on the following comments.

With respect to motivation, the Examiner asserts that it would be obvious to combine the teachings of the Yoshimura patent with the Yoshikawa patent because the device of

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the Yoshikawa patent was designed to address a plurality of optical elements integrated into an IC. However, Applicants respectfully assert that this is beside the point. Applicants' claimed invention is not directed to a plurality of VCSELs. Applicants' claimed invention is directed to a VCSEL optically coupled to a planar waveguide at 90 degrees to the optical path of the VCSEL. The combined teachings of the Yoshimura patent and the Yoshikawa patent do not motivate such a structure. Similarly, the combined teachings of the references do not teach how to form such a structure. Overall, the combined teachings of the references do not lead a person of ordinary skill in the art to Applicants' claimed invention. Therefore, the combined teachings of the references do not render Applicants' claimed invention prima facie obvious. Applicants respectfully request withdrawal of the rejection of claims 130-133 under 35 U.S.C. § 103(a) as being unpatentable over the Yoshimura patent in view of the Yoshikawa patent.

CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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